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| 10/659,914 | 09/11/2003 | David Wayne Jennings | 194-28620-US | 6010 |

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|---|---|
| FIGUEROA, JOHN J | |

| ART UNIT | PAPER NUMBER |
|---|---|
| 1712 | |

DATE MAILED: 08/22/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/659,914 | JENNINGS, DAVID WAYNE | |
| | Examiner | Art Unit | |
| | John J. Figueroa | 1712 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *13 June 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-7 and 9-21* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-7 and 9-21* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

## DETAILED ACTION

### *Response to Amendment*

1. The claim objections (items 1 and 2 on page 2 of the Office Action of March 13, 2006, hereinafter 'OA') and the 35 U.S.C. 112, second paragraph, rejections (items 6-8 on pages 4 and 5 of OA) have been withdrawn in view of the amendment to the claims in Applicant's amendment/response of June 13, 2006, hereinafter 'Response'.

2. The 35 U.S.C. 112, first paragraph, rejection of claim 1 (and claims 2-7 and 9-21 that depend therefrom) is maintained for reasons previously made of record in item 4 on page 3 of OA and for reasons set forth below in paragraph #18.

3. The 35 U.S.C. 102 rejections in items 10 and 11 on pages 5 and 6 of OA, respectively, as anticipated by USPN 3,563,315 to Clayton, Jr., hereinafter 'Clayton', and by USPN 5,536,706 to Kallenbach et al., hereinafter 'Kallenbach', have been withdrawn in view of Applicant's amendment to the claims in Response.

4. The 35 U.S.C. 102 rejection of claims 1-7 and 12-21 as anticipated by United States Patent Number (USPN) 6,593,426 to Krull et al., hereinafter 'Krull', is maintained for the reasons previously made of record in item 13 on page 8 of OA.

5. The 35 U.S.C. 103(a) rejection of claims 9-11 (item 15 on page 10 of OA) as unpatentable over Krull in view of USPN 6,670,414 B2 to Shiraishi, hereinafter 'Shiraishi', has been withdrawn.

***Specification***

6. The use of trademarks, such as LD781.36 from EXXON® Chemicals; CF25K from BAKER® PETROLITE; and LUBRIZOL™ 8202, has been noted in this application. (*See, e.g.*, specification, pages 12 and 17) They should be capitalized wherever it appears and be accompanied by the generic terminology.

Although the use of trademarks is permissible in patent applications, the proprietary nature of the marks should be respected and every effort made to prevent their use in any manner that might adversely affect their validity as trademarks.

***Claim Rejections - 35 USC § 112***

**7. The text of those sections of Title 35, U.S. Code that is not included in this action can be found in the previous Office action.**

8. Claims 1-7 and 9-21 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for ethylene vinyl acetate (EVA) copolymers, does not reasonably provide enablement for *modified* EVA copolymers. The specification does not enable a person of ordinary skill in the art to which it pertains, or with which it is most nearly connected, to make the invention commensurate in scope with these claims.

The specification does not disclose what the modification of EVA is, or what modification of EVA is necessary, for the *modified* EVA copolymer recited in claim 1 to be able to practice the claimed invention. Nor does the specification disclose how to

modify an EVA copolymer in accordance with the invention encompassed by the instant claims.

Furthermore, in Response, Applicant argues that although EXXON® "does not disclose the modification ... Applicant has verified that this inhibitor is functional with the invention and does not want a class of polymers to escape simply because the manufacturers do not wish to disclose the 'type of modification.'" (Response, Page 7, lines 10-14) Thus, Applicant admits not knowing how the EVA copolymer used in the Examples is modified. A person of ordinary skilled in the art, in view of the instant specification, would not be able to determine without undue experimentation what modification for the EVA copolymer is necessary to practice the claimed inhibitor composition, particularly, if the commercial modified EVA copolymer disclosed by Applicant becomes unavailable in the market in the future.

9. Claim 12 is rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for a paraffin inhibitor composition having a solvent system containing toluene with either cyclohexane, cyclopentane or decalin, does not reasonably provide enablement for a composition having any other solvent system involving a "weak to moderate wax solvent" other than toluene. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make the invention commensurate in scope with this claim.

The Examples in the specification disclose lowering of pour points of at least five degrees Celsius only for the following combinations: toluene/cyclohexane (Examples 8-12; Tables VIII-XII); toluene/decalin (Example 9; Table IX); and toluene/cyclopentane

(Example 9; Table IX). Applicant has not provided sufficient disclosure such that one skilled in the art could determine, without undue experimentation, which combination of "strong wax solvent" and "weak to moderate wax solvent" will provide the lowering of the pour point of the composition recited in the instant claim other than a solvent system comprising toluene as the "weak to moderate solvent system."

10. Claim 13 is rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for a paraffin inhibitor composition having a solvent system containing toluene with either cyclohexane or decalin, does not reasonably provide enablement for a composition having any other "strong wax"/"moderate-weak wax" solvent system. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make the invention commensurate in scope with this claim.

The Examples in the specification disclose lowering of pour points of at least ten degrees Celsius only for combinations of toluene/cyclohexane and toluene/decalin (Examples 9-12; Tables IX-XII). Applicant has not provided sufficient disclosure such that one skilled in the art could determine, without undue experimentation, which combination of "strong wax solvent" and "weak to moderate wax solvent" will provide the lowering of the pour point of the composition recited in the instant claim other than the two aforementioned combinations.

11. Claim 14 is rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for a paraffin inhibitor composition having a solvent system containing toluene and cyclohexane, does not reasonably provide enablement

for a composition having any other "strong wax"/ "moderate-weak wax" solvent system. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make the invention commensurate in scope with this claim.

The Examples in the specification disclose lowering of pour points of at least fifteen degrees Celsius only for solvent systems of toluene and cyclohexane (Examples 9, 10 and 12; Tables IX, X and XII). Applicant has not provided sufficient disclosure such that one skilled in the art could determine, without undue experimentation, which combination of "strong wax solvent" and "weak to moderate wax solvent" will provide the lowering of the pour point of the composition that is recited in the instant claim other than solvent systems of toluene and cyclohexane.

12. Claim 1 (and claims 2-7 and 9-21 that depend therefrom) are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The claims are indefinite because the phrases "weak to moderate wax solvents" and "strong wax solvent" in independent claim 1 are vague and unclear. These phrases are defined in the specification in paragraphs [0019] and [0020], but as discussed below in paragraph #18, these definitions in the specification do not provide sufficient guidance so that one skilled in the art can recognize which category of wax solvent a particular solvent would fall under. Consequently, these phrases are indefinite.

Moreover, claim 3 recites toluene to be a weak to moderate wax solvent. As discussed below in paragraph #18, this classification is repugnant to one skilled in the art.

***Claim Rejections - 35 USC § 102***

13. Claims 1-7 and 9-21 are rejected under 35 U.S.C. 102(b) as being anticipated by USPN 3,840,352 to Scheffel, hereinafter 'Scheffel'.

As discussed *infra* in paragraph #20, the specification is unclear as to which additives/solvents the "consisting essentially of" language is excluding and which additives/solvents materially affect the properties of the claimed inhibitor composition. Accordingly, for the purposes of this and subsequent rejections, this newly amended claim language is being treated as open-ended transitional language.

Scheffel discloses a low pour point composition, and a method of treating a high pour point wax-containing oil to inhibit wax (paraffin) deposition, comprising a copolymer of ethylene and a monoethylenically unsaturated ester and a hydrocarbon solvent containing a substantial proportion of cyclic hydrocarbon compound. (Abstract; col. 1, lines 5-13; col. 2, lines 9-64) Exemplary monoethylenically unsaturated esters copolymerizable with ethylene for the paraffin inhibitor agent component of the composition are vinyl and allyl esters of formic, acetic, propionic, butyric acids (such as copolymers of ethylene vinyl acetate and *modified* ethylene vinyl acetate) and saturated aliphatic esters of acrylic acid, e.g., methacrylic acid (to provide a copolymers, such as ethylene/methylacrylate). (Col. 3, line 62 to col. 4, line 61)

Scheffel discloses that the hydrocarbon solvent component of the composition can be any mixture of liquid hydrocarbon containing a substantial proportion of liquid cyclic hydrocarbons compounds (at least about 20 weight percent, preferably at least about 50 weight percent, more preferably at least about 70 weight percent). (Col. 6, lines 33-39 and lines 46-60) The cyclic hydrocarbons can be either aromatic or saturated, such as benzene, toluene, xylene, cyclopentane, cyclohexane or any of the various alkyl or polyalkyl cyclohexanes; wherein the preferred solvents disclosed by Scheffel are benzene, toluene, xylene, naphtha, kerosene and dipentene. (Col. 6, line 65 to col. 7, line 2; col. 17, lines 23-28; col. 19, lines 46-50)

Examiner notes that, as discussed previously in page 7, lines 10-15 of OA, naphtha is a commonly used solvent well-known to contain decalin and other cyclic hydrocarbons, such as cyclohexane and cyclopentane.

Scheffel further discloses various method of delivering the additive to inhibit paraffin deposition including, *inter alia*: the additive composition being intermittently admixed with the wax-containing oil; continuously adding it to the oil from a producing oil well during the operation; effectively injecting it on an intermittent basis; adding it by pumping or by its injection into the annulus at the top of a wellbore to a well reservoir of oil (that is transported to the surface under natural pressure, by pumping or gas lift); admixing it with a high pour point substrate to be treated prior to introduction in a pipeline; and/or injecting it directly into the oil flowing through a pipeline at a location where the oil is above pour point. (Col. 8, lines 21-58).

Scheffel also discloses adding sufficient additive composition to a high pour point wax-containing oil to provide an ethylene/ester copolymer composition effective to reduce the pour point and yield stress the method of inhibiting paraffin deposition by lowering pour point is disclosed in Scheffel to be especially effective when applied to crude petroleum and shale oils having pour points above 0°C. (Col. 9, lines 7-15)

Moreover, Scheffel discloses examples of compositions containing an ethylene/vinyl acetate copolymer inhibitor in a naphtha solvent (Examples 23-31; Table 4) and results of pour point studies of a composition comprising an ethylene/vinyl acetate copolymer showing reduction of the pour point from 65°C to 35°C (Example 34). Although Scheffel does not specifically disclose results of pour point studies for a composition comprising a solvent mixture of, e.g., toluene and cyclohexane, because Scheffel's composition and that encompassed by the instant claims are the same composition, then Scheffel's composition must inherently possess the same physical properties, such as pour point reduction for compositions in solvent mixtures of toluene and cyclohexane, as the composition recited in the instant claims.

Thus, the claims are anticipated by Scheffel.

14. Claims 1, 9-15 and 18-20 are rejected under 35 U.S.C. 102(b) as being anticipated by United States Patent Application Number 2002/0166995 A1 to Robinson et al., hereinafter 'Robinson'.

Robinson discloses a composition for reducing wax comprising a polymeric wax inhibitor in a solvent system containing 5-90% aliphatic glycol and 0-75% aromatic co-solvent. (Page 1, paragraphs [0020] to [0022]) The polymeric wax inhibitor can be

copolymers of maleic anhydride with alkyl vinyl ethers, alpha-olefins or alkyl(meth)acrylates which may be esterified, amidated or imidated. (Page 1, paragraph [0023])

In Examples 1 and 2, Robinson discloses compositions comprising a maleic copolymer paraffin inhibitor in various solvent mixtures of an aromatic blend and 2-butoxyethanol. As discussed below in paragraph #18 and in item 4 of OA, it is unclear as to what exactly encompasses a "strong wax solvent" as opposed to a "weak to moderate wax solvent."

Although Robinson does not specifically disclose results of pour point studies for the composition, because the compositions disclosed in Robinson and that encompassed by the instant claims are the same composition, then both compositions must inherently possess the same physical properties, such as pour point reduction.

Thus, the claims are anticipated by Robinson.

15. Claims 1, 9-15 and 18-20 are rejected under 35 U.S.C. 102(b) as being anticipated by USPN 3,682,249 A1 to Fischer et al., hereinafter 'Fischer'.

Fischer discloses a method for inhibiting the deposition of wax from wax-containing soluble oils by injecting to the oil/formation a composition of a wax deposition inhibitor, such as an ethylene/ester copolymer in a hydrocarbon solvent, such as naphtha. (Abstract; col. 1, lines 6-12; col. 2, lines 1-44) Various ethylene/mixed ester copolymers that can serve as agents for inhibiting paraffin deposition are disclosed in Fisher at col. 1, line 41 to col. 2, line 25. The preferred inhibitors are the lower vinyl

esters and lower alkyl acrylates/methacrylates, such as copolymers of ethylene with either vinyl acetate, ethyl acrylate or ethyl methacrylate. (Col. 4, lines 56-66)

Fischer discloses the solvent for the inhibitor to be a liquid hydrocarbon, crude oil, kerosene, naphtha, cyclohexane, toluene "and the like." (Col. 6, lines 56-68; col. 10, lines 42-55)

Examiner notes, as discussed above and in page 7, lines 10-15 of OA, that naphtha is a commonly used solvent well known to contain decalin and other cyclic hydrocarbons, such as cyclohexane and cyclopentane.

In Examples 5-9, Fischer further discloses results showing the inhibiting effects of compositions comprising the ethylene/ester copolymer injected on samples containing soluble oil, diesel oil, water-containing gas oil and water-containing gas oil.

Although Fischer does not specifically disclose results of pour point studies for the composition, because the compositions disclosed in Fischer and that encompassed by the instant claims are the same composition, then both compositions must inherently possess the same physical properties, such as pour point reduction.

Thus, the claims are anticipated by Fischer.

***Claim Rejections - 35 USC § 103***

16. Claims 9-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Krull in view of Scheffel.

Krull was discussed previously in item 13 on page 8 of OA and it is incorporated herein in its entirety.

Krull discloses an EVA copolymer paraffin inhibitor dissolved in an aromatic/aliphatic hydrocarbon solvent mixture of, for example, toluene with xylene or cyclohexane. Krull does not expressly disclose percent weight ratios for the aliphatic and aromatic components of the solvent mixture.

Scheffel was discussed above in paragraph #12. As discussed previously Scheffel discloses the solvent to be any mixture of liquid hydrocarbons containing a substantial proportion of liquid cyclic hydrocarbons compounds (at least about 20 weight percent, preferably at least about 50 weight percent, more preferably at least about 70 weight percent), such as benzene, toluene, xylene, cyclopentane and cyclohexane. Scheffel further teaches that these high boiling solvent systems are preferable because they are not volatile enough so that they evaporate when admixed with an additive upon injection of the composition into a well having an elevated temperature. (Scheffel: Col. 6, lines 46-67)

Therefore, it would have been obvious to a person of ordinary skill in the art at the time that the claimed invention was made to use a solvent system mixture comprising, e.g., toluene and cyclohexane in the percent weight ratios disclosed by Scheffel, as the solvent component in Krull's paraffin inhibitor composition. It would have been obvious to do so to attain a paraffin inhibitor composition that is more stable when injected into a well bore reservoir at an elevated temperature as taught by Scheffel, and thus attain a resultant fluid having reduced wax deposition.

Thus, the claims are unpatentable over Krull and Scheffel.

***Response to Arguments***

*The Claim Objections and 35 U.S.C. 112, 2nd Paragraph Rejections (item's 1, 2 and 6-8 of OA)*

17. Applicant's arguments with respect to the claim objections and the 35 U.S.C. 112, 2nd paragraph rejections in items 6-8 of OA have been considered but have become moot due to the withdrawal of these rejections.

The Claim Objections and 35 U.S.C. 112, 1st Paragraph Rejections (item 4 of OA)

18. Applicant's arguments with respect to the 35 U.S.C. 112, 1st paragraph rejection of claims 1-7 and 9-21 have been fully considered but are deemed unpersuasive.

In response to Applicant's argument that the specification in paragraphs #[0019] and [0020] defines the terms at issue, namely, "strong wax" and "weak to moderate" solvents, these are the exact same sections of the specification that were cited in OA to show the indefiniteness of said terms. (*See*, OA, item #4 on page 3, lines 10-14 of the rejection) The enablement issue arises because a person skilled in the art cannot ascertain, in view of the cited section of the specification, without undue experimentation, what exactly constitutes a "strong wax solvent" as opposed to a "weak to moderate wax solvent." The specification provides no guidance in interpreting the ambiguous phrases "limited solubility" and "comparatively greater solubility" that are essential in classifying the various solvents as "strong" or "weak to moderate" in accordance with the cited definition, or any basis of experimentation to determine what

constitutes "limited solubility" and "comparatively greater solubility" to be able to classify the solvents within the categories recited in claim 1.

Moreover, Applicant classifies toluene as a weak to moderate solvent (paragraph [0019] and claim 3). However, it is well known in the art that toluene is a paraffin solvent that readily dissolves wax and therefore commonly used a carrier for paraffin inhibitor additives. *See, e.g.*, USPN 5,611,894 to Kawamura et al. (col. 1, lines 29-31); USPN 3,279,541 to Knox et al. (col. 3, lines 27-48); USPN 3,841,850 to Aaron et al. (col. 5, lines 29-38); USPN 3,640,824 to Bucaram et al. (col. 4, lines 31-43); Kallenbach, col. 3, lines 35-52; Scheffel, col. 6, lines 32-67; Fischer, col. 10, lines 42-57; and Krull, col. 8, lines 23-34. Accordingly, the classification of toluene as a "weak to moderate wax solvent" would be repugnant to a person of ordinary skill in the art. See also MPEP § 2111.01. Where applicant acts as his or her own lexicographer to specifically define a term of a claim contrary to its ordinary meaning, the written description must clearly redefine the claim term and set forth the uncommon definition so as to put one reasonably skilled in the art on notice that the applicant intended to so redefine that claim term. Process Control Corp. v. HydReclaim Corp., 190 F.3d 1350, 1357, 52 USPQ2d 1029, 1033 (Fed. Cir. 1999). Any special meaning assigned to a term "must be sufficiently clear in the specification that any departure from common usage would be so understood by a person of experience in the field of the invention." Multiform Desiccants Inc. v. Medzam Ltd., 133 F.3d 1473, 1477, 45 USPQ2d 1429, 1432 (Fed. Cir. 1998).

The phrases "weak to moderate wax solvent" and "strong wax solvent" are indefinite because the specification does not clearly redefine the phrase or provide clarity to their departure from common usage. The specification does not define what is encompassed by the terms "limited solubility" or "comparatively greater solubility" in the respective definitions of "weak to moderate wax solvent" and "strong wax solvent." Thus, the specification does not provide sufficient enablement so that one skilled in the art can ascertain as to how to classify a solvent based on its "limited solubility" in wax or provide a standard from which to determine its "comparatively greater solubility."

Thus, the claims, as amended, remain rejected as not enabled by the specification in accordance with 35 U.S.C. 112, first paragraph.

The 35 U.S.C. 102 Rejections over Clayton and Kallenbach (items 10 and 11 of OA)

19. Applicant's arguments filed regarding the 35 U.S.C. 102 rejections as anticipated over Clayton and Kallenbach have been considered but have become moot due to the withdrawal of these rejections.

The 35 U.S.C. 102 Rejection over Krull (item 13 of OA)

20. Applicant's arguments filed regarding the 35 U.S.C. 102 rejection of claims 1-7 and 12-21 as anticipated by Krull have been fully considered but are deemed unpersuasive.

Applicant has responded to this rejection by amending the transition phrase in independent claim 1 to "consisting essentially of" from "comprising of" language in an

attempt to overcome the solvent system disclosed in Krull (naphtha) by "limiting the solvents to those listed and only insignificant amounts of other solvents that would not materially affect the properties of the claimed composition."

However, this change in transition language does not overcome Krull because it is extremely unclear from the specification as to which solvents would materially effect the composition. As stated previously, it is unclear as to how to determine which of the recited wax solvent categories in claim 1 a particular solvent belongs to. The specification does not provide sufficient enablement for one of ordinary skill in the art to be able to classify a particular solvent as "moderate to weak wax solvent " or "strong wax solvent", let alone, ascertain which solvents materially affect the properties of the claimed composition.

More importantly, couldn't any solvent in naphtha, or for that matter, any solvent known to man under the sun, be classified either as a "weak to moderate wax solvent" or a "strong wax solvent"? Every single solvent component in naphtha, whether complex or not, apparently would fall within one of the two categories recited in claim 1. Accordingly, it is unclear as to which solvents (if any) Applicant is actually excluding as not encompassed by the instant claims by amending the claim language to "consisting essentially of". *See* MPEP 2111.03. (See, e.g., PPG, 156 F.3d at 1355, 48 USPQ2d at 1355 ("PPG could have defined the scope of the phrase consisting essentially of' for purposes of its patent by making clear *in its specification* what it regarded as constituting a material change in the basic and novel characteristics of the invention."). [Emphasis added] If an applicant contends that additional steps or materials in the

prior art are excluded by the recitation of "consisting essentially of," *applicant has the burden of showing that the introduction of additional steps or components would materially change the characteristics of applicant's invention.* [Emphasis added] In re De Lajarte, 337 F.2d 870, 143 USPQ 256 (CCPA 1964).

Thus, the claims, as amended, are interpreted as reciting open-ended transitional language and remain anticipated by Krull.

*The 35 U.S.C. 102 Rejection over Krull and Shiraishi (item 15 of OA)*

21. Applicant's arguments filed regarding the 35 U.S.C. 103(a) rejection of claims 9-11 as unpatentable over Krull and Shiraishi have been considered but have become moot due to the new grounds of rejection.

## ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John J. Figueroa whose telephone number is (571) 272-8916. The examiner can normally be reached on Mon-Thurs & alt. Fri 8:00-5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy Gulakowski can be reached on (571) 272-1302. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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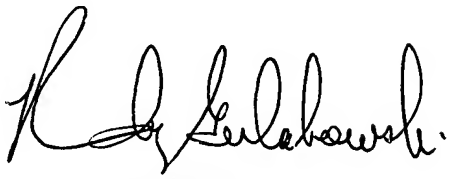

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